IN THE CLAIMS

Claims 1-4 have been cancelled.

1-4.   (Cancelled)

5.   (Previously presented)   A method for determining coordinates of images of marks in a volume dataset comprised of a plurality of consecutive computed tomography slice images of a subject in which image data in each slice image are described with Cartesian coordinates, and wherein the marks are disposed on a surface of the subject, and wherein the volume dataset represents images of the marks and an image of at least a part of the subject having a surface on which the marks are disposed, said method comprising the steps of:

performing a coordinate transformation for each slice image from Cartesian coordinates to polar coordinates relative to a line extending through the image of the subject, said line being oriented substantially perpendicularly to the slice images, thereby obtaining transformed sliced images;

determining contours in each of said transformed slice images allocated to the surface of the subject in that transformed slice image;

generating an image dataset substantially comprising pixels of the image of the surface after transformation into a plane and pixels of the images of the marks;

generating a two-dimensional image dataset by re-extracting image data representing the images of the marks in a region parallel to the imaged surface;

determining coordinates of the images of the marks in the two-dimensional image dataset; and

re-transforming the coordinates of the images of the marks back into the coordinates allocated to the volume dataset.

6.   (Original) A method as claimed in claim 5 comprising determining the coordinates of the images of the marks in the image dataset and in the two-dimensional image dataset by filtering said image dataset.

7.   (Original) A method as claimed in claim 6 comprising filtering said image dataset with a filter matched to said marks.

8.   (Original) A method as claimed in claim 6 comprising filtering said image dataset according to the minimum square error sum.

9.   (Original) A method as claimed in claim 6 comprising filtering said image dataset to cause at least one location of the image of each mark to emerge as a local maximum.

Claims 10-16 have been cancelled.

10-16. (Cancelled).

17.   (Previously presented) A computed tomography system comprising:

a computed tomography imaging device for obtaining a volume dataset of a subject representing a plurality of consecutive computed tomography slice images of the subject, each slice image comprising image data described with Cartesian coordinates, and wherein marks are disposed on a surface of the subject and the volume dataset represents images of the marks and an image of at least a part of the subject having the surface on which the marks are disposed;

a data processing system supplied with said volume dataset, said data processing system storing said volume dataset;

a navigation system for relating coordinates of the volume datasets to coordinates of the subject by a coordinate transformation during a registration; and

said navigation system performing a coordinate transformation for each slice image from said Cartesian coordinates to polar coordinates relative to a line extending through the image of the subject, said line being oriented substantially perpendicularly to the slice images, thereby obtaining transformed sliced images, determining contours in each of said transformed slice images allocated to the surface of the subject in that transformed slice image, generating an image dataset substantially comprising pixels of the image of the surface after transformation into a plane and pixels of the images of the marks, generating a two-dimensional image dataset by re-extracting image data representing the images of the marks in a region parallel to the imaged surface, determining coordinates of the images of the marks in the two-dimensional image dataset, and re-transforming the coordinates of the images of the marks back into the coordinates allocated to the volume dataset.

18. (Original) A computed tomography system as claimed in claim 17 comprising a filter for filtering the image dataset to determine the coordinates of the marks in the image dataset and in the two-dimensional image dataset.

19. (Original) A computed tomography system as claimed in claim 18 wherein said filter is matched to the marks.

20. (Original) A computed tomography system as claimed in claim 18 wherein said filtering filters according to the minimum square error sum.

21. (Original) A computed tomography system as claimed in claim 18 wherein said filter causes at least one location of the image of each mark to emerge as a local maximum.

22. (Original) A computed tomography system as claimed in claim 17 wherein said navigation system includes a position sensor for identifying the marks for the registration.

23. (Previously presented) A computed tomography system as claimed in claim 22 wherein said marks are optically detectable and wherein said position sensor is an optical detector.

24. (Original) A computed tomography system as claimed in claim 17 further comprising a separate medical imaging device for obtaining images of the subject and for fading images obtained with the medical imaging device into an image allocated to the volume dataset.